

The Pelagic Halobates

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(Presented at the meeting of February 6, 1930)

Waikiki Beach is well known for its surfing, but on January 15, 1930, at high noon, no one was surfing. The waves were high and rough, with whitecaps breaking right up to shore. A strong southwest wind of a "Kona" storm was blowing in all the drift and debris that was floating off shore.

Among all this drift were many tiny ashy gray, long-legged bugs of a most peculiar form. These small "seagoing" animals are the only insects known to be truly pelagic; that is, they live their entire life, from egg to adult and finally death, upon the briny deep. They have often been found hundreds of miles from land, and they probably never come to shore, until blown in by the strong wind of a bad storm.

Halobates sericeus Esch. is the name of this queer little bug, according to Mr. E. H. Bryan, Jr., of the Bishop Museum. It belongs to the family Hydrometridae, the members of which all live on the water of sea, lake or river.

The writer was walking along the shore at Waikiki when it was noticed that in holes in the sand and behind bunches of seaweed, there was a most peculiar commotion going on. It seemed as though there were many little gray pebbles bouncing up and down. After a closer examination, the little bouncing gray pebbles turned out to be real live insects with very long legs, which had become excited at the approach of the strange giant, and that jumping was their only means of escape from harm. After catching a few of these bouncing pebbles, it could be seen that they were real live bugs, but how differently they are constructed from most other bugs!

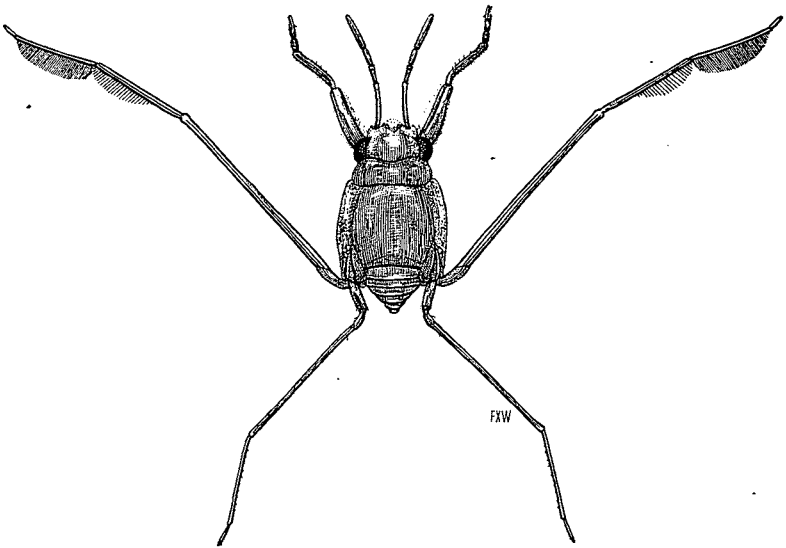
These Halobates are insects, true bugs belonging to the Order Hemiptera. In order to explain how peculiar they are, a short description must be given of them.

They have a beak or proboscis as other bugs do, and all their food is sucked up through a tube in this beak. Their food prob-

ably consists of floating decaying sea animals and plants, but small helpless sea animals are also probably attacked, and their blood sucked.

The eyes of *Halobates* are large for the size of the bug. They may be described as "popeyed," as their eyes are very large, protruding, and black in color.

The body of the insect is similar to a short, fat cigar, pointed at both ends. The abdomen is flat, and shaped like some of the outboard speed boats.



Halobates sericeus, X 8.

The fore legs are rather short and stout, and are used only to hold, and to carry food to the mouth. The middle and hind pair of legs are very long and very slender, two or three times the length of the body, and as fine as a human hair.* The bottom of the first joint of the foot is supplied with many extremely long and almost invisibly thin "cilia" or hairs. The only means of locomotion is their legs, as these insects have no wings. Most bugs have wings and are good fliers. *Halobates* more than make

* The middle pair of legs are attached to the body way back behind, and just above the hind pair of legs, so that it is rather difficult to tell which are the true hind legs.

up for their wingless condition by their swiftness or fleetness of foot, and wonderful dodging and jumping abilities.

The body is about one-eighth of an inch long, half as wide, and less in thickness. The legs are a fourth of an inch long, the fore legs are carried folded up under the head, and are never used in running.

Halobates are commonly called water striders, water skaters, skooters, etc., and how they can skoot or skate along on top of the water, usually holding their body well up in the air. The slender feet, and fine hairs on the feet support them upon the surface tension of the water, as well as our feet do on dry land, perhaps better.

Over a hundred Halobates were collected by grabbing handfuls of sand and skaters from the bottom of holes in the sand along the shore, and throwing them in a paper bag. They were then taken to the laboratory and all dropped into a white pan of water, up they popped, from the sand which had sunk to the bottom, and how they did race around! They must be the fastest thing on water. If they had not "connected" with the edge of the pan, some of them would soon have been miles at sea. Every time any one came near them they would race around more madly than ever, and again resume their funny vertical leaping. It was so easy for them to play leap-frog. They continued their mad racing around for several hours, before they finally began to quiet down. When real active they ran over the water so fast that it was impossible to follow the path of an individual skooter, as it glanced off the sides of the pan. Halobates are certainly real gymnasts and acrobats. Have you ever seen a man, or anything, jump right straight up into the air off water?

By 5:30 P. M. most of them had completely quieted down, and were all lined up, side by side, just like submarines tied up for the night, with their feet stretched out behind them.

The next morning they were all dead. Although a careful search was made along the beach to find more, none could be found. They had all crawled back to the sea, and very likely they were soon far out from shore.